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CHILD DEVELOPMENT

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INFLUENCES OF WAR AS EVIDENCED IN CHILDREN'S PLAY

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Introduction

War has added many new aspects to the environment of children in Hawaii. For this reason the following study has been undertaken to determine how these new influences are reflected in children's play. The specific purpose of this study is not to prove or disprove any preconceived theories, but merely to present a descriptive account of children's play as it appears to be influenced by war and local conditions directly and indirectly related to war.

Justifications for this study might be considered as being threefold. First, Hawaii was the focal point of the major attack which precipitated the declaration of war by the United States and since that attack has constantly been a theater of war. Thus many new psychological characteristics have been added to its environment which make it different from any other part of the United States or its territories. Likewise, the specific role played by Pearl Harbor in war propaganda has added to Hawaii's psychological complexity. Quite unrelated to the war, Hawaii presents a unique situation from a social standpoint by virtue of its mixed racial population. The fact that people of Japanese ancestry and peoples descended from other racial groups now at war with Japan comprise a large per cent of the population has presented many new psycho-socio problems. These facts, which are specific to Hawaii, afford an opportunity for study comparable to no other environmental situation.

A second justification for a descriptive study of this kind is the knowledge which its data might contribute in orienting children in present day culture. For example, there has been considerable discussion as to whether or not an attempt should be made to give children an understanding of the meaning of

[1]*The authors wish to acknowledge the contributions to this study made by the teachers of the Free Kindergarten and Children's Aid Association and the teachers of the pre-schools of the Church of the Crossroads and Central Union Church.*

war, and if so how this could best be done. Some have felt that all discussion of war by adults in the presence of children and manifestations of war interest by children should be suppressed, while others have taken a more liberal view. Many of the latter have raised the question as to whether or not children's war play might be guided so as to lead to positive values. The answers to these questions can only come as a result of learning what meaning war has for children and to what extent it affects their behavior. Although a descriptive account of children's play as it reflects war can give us no definite answers of statistical value, it may suggest trends and indicate the direction for further research.

A third justification for this study is the light which it might throw on the problem of what effects children's awareness of war have on personality and social relationships. This problem raises two specific questions. First, does children's awareness of war stimuli and participation in war play tend to increase emotional instability? Second, do war influences have any effect on the development of positive character traits? It has been the contention of some that war is not entirely destructive in nature, but that it also has positive and humane phases and that an understanding of these may have an influence on the development of positive character traits in children. Here again it will be impossible to draw any definite conclusions from a purely descriptive study on such far-reaching questions as are presented by the whole problem of character and personality. Nevertheless, it is possible to observe within limits to what extent war play is accompanied by such emotions and impulses as fear, anger, hate, destructiveness, and hostility, and how frequently children dramatize the more positive and humane aspects of war such as the administration of first aid and various defense measures.

General Method

The following study is limited to data gathered six months or more after the attack on Pearl Harbor from eleven kindergartens under the direction of the Free Kindergarten and Children's Aid Association and two church preschool groups in Honolulu.[2] The kindergarten groups take the place in Honolulu of public school kindergartens in other localities. The ages of the children ranged from 3 to 6 years, the large majority being four- and five-year-olds. The children may be said to be a

[2]*Throughout the study the Free Kindergarten and Children's Aid Association groups will be referred to as kindergarten groups, and the church preschool groups as church groups.*

representative group of kindergarten children none of whom as far as is known has suffered any undue hardship as a result of the war.

TABLE 1

PERCENTAGE OF VARIOUS RACES REPRESENTED IN THE KINDERGARTEN AND CHURCH GROUPS AS COMPARED WITH THE 1940 CENSUS FIGURES FOR ALL HONOLULU CHILDREN UNDER FIVE YEARS OF AGE

	Hawaiian	Part Hawaiian	Caucasian	Chinese	Japanese	Filipino	Korean	Porto Rican Negro Others
Honolulu children Under five years	2.1	26.4	21.2	10.2	31.1	4.3	1.5	2.8
Kindergarten and church groups	4.5	10.3	13.6	12.4	48.4	6.3	1.3	3.1

Table 1 shows the racial composition of the groups studied as compared with the 1940 census figures for all Honolulu children under 5 years of age. It will be noted from the table that in general the racial distribution of the groups studied is similar to that of pre-war Honolulu's general population of preschool age children although the percentage of Japanese is somewhat higher and the percentage of Caucasians and Part-Hawaiians somewhat lower.

The data for this study were gathered from three sources; material obtained from observations, a collection of children's paintings, and teachers' responses to questionnaires. A series of 24 one-hour observations were made by the authors over a six weeks period in two of the kindergarten groups, each observer making twelve observations in one group. With this method of having only one observer in each kindergarten, it was impossible to observe the entire group. For this reason an effort was made to observe children engaged in war play. As far as possible a diary type of record was kept. Since it was difficult to observe painting directly and at the same time obtain data on other activities of the children, a plan was arranged to have teachers in three kindergarten groups observe and collect all paintings done by children over a period of two weeks. (This period was at a later date than the original observation period.) The schools chosen for this purpose were selected purely on the basis of convenience. Teachers were instructed not to ask the child what his painting was about, but to record

any verbalization during the painting and to give the child an opportunity to comment on his painting if he so desired.

Questionnaires which were given to teachers of all groups referred to: 1) Manifestations of war influences in various play activities; 2) the extent to which war play takes place and proportion of children participating; 3) participation in war play in relation to sex, race, and home background; 4) the initiating, terminating and over-stimulating circumstances of active dramatic war play; 5) participation in war play in relation to social, emotional, and personality factors. (See sample in appendix.) Teachers were asked to make observations over a two-week period, on the basis of which they would then fill out the questionnaire. The teachers to whom the questionnaires were issued are of different racial backgrounds, a large proportion being Japanese. There are also wide differences in the educational backgrounds of these teachers. Due to these facts it is possible that in a few instances prejudice and preconceived opinion may have prevented accurate reports.

All data were analyzed and summarized by the authors and are presented in the following discussion. In general the data from the three sources will be presented separately, but as far as possible the observational data will be discussed in relation to the questionnaires so that comparative interpretations and evaluations may be made.

Manifestations of War Influences in Various Play Activities

In a study of how war influences are evidenced in children's play the first questions that present themselves are: Does war play take place among kindergarten children? In what activities may the influences of war be observed? Is war play limited merely to using models of war[3] for creative endeavor or is there actual dramatic war play?

In the two observation groups both observers noted some evidence of war play during all observation periods with the exception of one. The failure to note any during this one period may be due to the fact that this was the beginning of a new term and there were a number of new children in this group. The teacher reported that there had previously been much interest in war play. In all other observation periods some evidence of war play was noted. The reports of teachers on the questionnaires agreed substantially with the observational data on occurrence of war play, all teachers reporting some evidence of war play in their groups.

[3]*The term models of war is used throughout the study and refers to the making of guns, planes, ships, etc., in creative work.*

The data from both the observation groups and reports of teachers indicated evidence of war influences in painting and drawing, clay modeling, block building, and dramatic play. Teachers in ten of the thirteen schools reported seeing war influences in each of these four activities, and all schools reported manifestation of war in block building. Influences of war were observed primarily in clay modeling in one group and in block building in the other. It should be pointed out that data from both observation groups as well as the questionnaires indicated not merely the using of models of war for creative endeavor, but also participation in active dramatic play.

Little data could be obtained on painting and drawing in the two observation groups. However, the responses of teachers on questionnaires, as well as the special collection of paintings, indicated considerable influence of war manifested in painting and drawing. Teachers reported that the drawings and paintings most frequently depicted armaments such as airplanes, submarines, guns, army trucks, and parachutes. They also reported a number of drawings of symbols such as flags, swastikas, and victory symbols, and a few instances of camouflage and defense measures such as blackout and bomb shelters. In one instance the expression of an abstract idea was seen in a drawing where the paper was divided into four squares representing England, America, Germany, and France with walls between to keep them from fighting.

The data obtained from the special collection of paintings presented facts of some statistical interest. In this collection a total of 173 paintings were made by 94 children. Of these, 26 or 15 per cent of the total number of paintings depicted war. This was obvious both from the observation of the paintings and the comments made by the children while painting. Here again the majority of pictures depicted armaments and symbols. In addition there were two instances depicting blackouts. Several of the paintings were quite complex and the comments made by children about these paintings expressed ideational concepts involving conflict between nations. For example, one child describing his painting said, "This is America! This is Japan! Bomb Tokyo!" In many of the paintings keen observation on the part of the child was apparent from the amount of detail included in the painting. One child painted a picture of a seaplane with accurately placed propeller, pontoon, rudder, and machine gun. Although the war theme was prominent in the paintings of some children it was not an exclusive interest and did not even always predominate. Also it should be mentioned that in spite of the war interest there nevertheless appeared to be a great deal of pleasure in painting for its own sake and joy in the use of line

and color. There appeared to be no significant difference in the colors used or in the quality of line in the war paintings as compared with other paintings. It is possible that this may signify the lack of any characteristic emotional tone associated with war paintings.

War influences in clay work were represented in the two observation groups primarily in the modeling of armaments such as airplanes, ships, submarines, airplane carriers, machine gun nests, and bombs. A common activity noted in one of the observation groups was building an airplane and then loading it with bombs. There was a good deal of interest in detail in modeling and the models were often named with frequent reference to P40 and B19. It was also noted that symbols appeared in clay modeling. For example, one boy made an airplane putting a V on one wing and U.S.A. on the other, while a V.... was modeled by another boy. It was observed that this creative endeavor was frequently accompanied by the singing of patriotic songs, particularly "Anchors Aweigh."

As was true in the two observation groups, the reports of teachers also indicated that war influences were represented in clay modeling chiefly in the creation of armaments and war symbols. In addition teachers reported frequent representation of defense measures such as the modeling of bomb shelters, gas masks, and tires. The modeling of tires was noted at the time of the drive for old rubber. In several instances teachers also reported noting the modeling of human figures. For example, one child modeled a man's face, labeling it Hitler.

Both the observational and questionnaire data indicated that the creation of war models in clay work frequently led to active war play. This was not true of painting, which is likely due to the difference in the creative medium. In spite of the fact that the completion of models in clay work frequently led to active war play, it was nevertheless apparent that there was a good deal of joy in modeling for its own sake and an interest in detail and perfection. In other words, the normal values of the activity seemed to be retained regardless of the stimuli initiating the activity and the type of play to which it leads.

In block building, as in clay modeling, war influences were represented primarily in the construction of models of war. These models were similar to those found in clay work, being chiefly armaments of various kinds. Those most frequently noted in the two observation groups were battleships with gun turrets, airplanes, forts and gun emplacements. There were also some instances noted of building models related to positive phases of war such as hospitals, stretchers, and first aid stations. The reports of teachers indicated the same mani-

festations of war interests in block building as were noted in the two observation groups. In addition, teachers reported several instances of building models related to defense measures such as bomb shelters. It is interesting that building armaments and other models of war were reported in every school with the exception of one which happened to be one of the church groups.

As was true in clay modeling, it was noted from both the observation and questionnaire data that the completion of models of war in block building frequently led to active war play. Often, however, there was a return to construction with an interest in detail and perfection. For example, in building a battleship great care was used in constructing the hull with a double row of blocks and completing the entire deck by fitting small blocks together closely, this being a very laborious piece of construction meticulously done. Interest in construction for its own sake was also shown in the work of a group of boys who were making a tower for a gun emplacement using a long stick over a block in a fulcrum and lever fashion with which they were raising the building by adding blocks underneath instead of on top. Thus, as in painting and clay work, it is apparent that although war stimuli affect the activity of block building, the normal interests of construction are nevertheless present.

Influences of war in children's play were probably most frequently observed in active dramatic war play. This war play for the most part grew out of other activities such as completion of models in clay work and block building. For example, James having modeled a plane out of clay started flying it, at the same time humming the noise of the engine and saying "B19 diving down now! Drop bomb now!" He then dropped the bomb on the plane which the girl next to him had made. Another group of boys, building a fort with blocks, put machine guns around the sides. They then sat inside the fort aiming the guns at two boys across the room who had built a tower. This action was accompanied by the rat-tat-tat of machine guns.

In some instances the war play was merely the imaginative play of a single child. For example, in clay modeling there were numerous instances where a child after completing a plane would fly it through the air humming the noise of the engine and finally crash it on the table. Day after day one boy built a tower of blocks and after completing it would march up and down in front of it occasionally stopping to salute. This was accompanied by the singing of a tune which was definitely recognizable as martial music.

In other instances the war play was well organized group play. This type of play seemed to predominate in play with

blocks usually involving a group of three or more children or several such groups. There also was usually some evidence of leadership. In some instances the play was clearly organized with definite sides opposing each other while in other instances the organization was much less clearly defined. In these instances children would point their guns at or engage in hand to hand combat with whomever happened to be near by. An example of the more clearly organized play may be seen in the following. Under the direction of one boy a group of boys built three seaplanes. James, the pilot of one plane, said while making the noise of a machine gun and pointing his gun at Clifford and John in the other plane, "I shoot those planes," Clifford and John then began shooting at James. James said to his co-pilot, "Look! Help!" With this James and his partner took their guns, went over to the boys and started hand to hand combat.

The nature of the war play in general was usually some form of combat such as machine gunning, dive bombing, torpedoing, sniping, and commando tactics. The play was for the most part quite realistic with clear dramatization of the more sadistic phases and the use of facial expression and bodily action depicting suffering and death. This is shown very clearly in the following episode. Moses, in the manner of a commando, made a raid on John's fort, pointing a gun at him and shouting, "Bang!" John, putting his hand over his heart and expressing agony in his face, grabbed his gun and shot back at Moses, who fell "dead". Although the play was realistic, it never went beyond the realm of play, and there were never evidenced any hostile feelings or actual attempts to hurt one another. In many instances boys were seen to pretend to be throwing blocks as hand grenades, but no one ever actually threw one. Also they frequently pointed sticks as bayonets, coming very close to one another, but not actually poking. In all play an atmosphere of gaiety and laughter prevailed, and although the opposite side was frequently referred to as the enemy, a friendly and playful attitude was apparent throughout.

Although the primary emphasis in war play appeared to be on the more aggressive phases of combat, dramatizations of other aspects of war such as communications, defense measures, first aid, and rescue work were also observed. Dramatizations of communications were seen in several instances where a boy would use a block as a microphone. For example, one boy pretending to be piloting a plane communicated in this fashion saying, "I'm coming down America! Dive bomber coming down now!" In another instance a boy who was acting as sentry at a watch tower using his "microphone" in a voice imitating the radio police calls, repeated several times "Get the emergency

doctor."

Certain defense measures were also portrayed in war play, particularly with reference to air raid alarms. In the midst of dramatic play centered around the construction of a ship one boy making the noise of a siren suddenly jumped up and shouted, in exact imitation of the announcement made over the radio during actual alarms, "This is an air raid alarm! Take cover!" It is interesting that an actual alarm with such an announcement had not occurred for several months.

Portrayals of first aid and rescue work were seen in instances where a child pretending to be injured in combat play would be carried to a hospital bed. In other instances a child would be rescued from the battlefield and dragged back to the fort.

The reports of teachers in regard to the influences of war as portrayed in active dramatic play agreed substantially with the observational data. As was noted in the two observation groups, it was reported by the teachers that much of the active dramatic war play followed as a result of the completion of war models in block building and clay work. Teachers reported combat play as the type most frequently observed, and also noted many instances of well organized group play. An interesting example given by one teacher tells of two groups of children shooting at each other from forts. One group rushed over to the opposing fort and destroyed it, after which one of the boys stood on the ruins shouting, "America wins!" Teachers' reports indicated that the positive phases of war were also brought out in the dramatization of first aid. Several other types of war play were mentioned by the teachers such as marching, bomber formation, and dying.

In the two observation groups it was possible to note some general characteristics of the war play which could not be obtained from the questionnaire data. In general all dramatic war play was characterized by a child-like transitory quality. For example, in the middle of well-organized group war play there would be a temporary shift to Superman, the Lone Ranger, or other popular types of child play. This transitory quality was not only seen in relation to the subject of the play but also in relation to the organization of the play. For example, Richard, Donald, and Jerry were shooting from forts at Warren and James who were crouching behind a tower on the opposite side. In the midst of the play Warren called to Donald, "Hey, I like be on your side." James said, "Me too!" and they both picked up their towers and put them inside Donald's fort. With this Donald, Richard, and Jerry went to the opposite side and the combat continued again.

Although there was organization in much of the war play in

the sense that there was cooperation among members of a group and inter-group play, there was little continuity to the play such as one finds in a well-developed project type of play. In contrast to the latter, the play consisted of a series of separate episodes of short duration without reference to a specific goal and linked only by the general ideology, desire for activity for its own sake, and a certain type of emotional and bodily expression.

However, with teacher guidance it is possible to direct war play into a well-developed project type of play. This may be seen in an activity reported by a teacher in one of the observation groups. This activity lasted throughout the last two weeks of the school session immediately following the six weeks in which the observations were made. During the first six weeks a great deal of active dramatic war play had centered around the blocks. On one occasion a child was accidentally hurt, and the teacher's suggestion that he might need first aid interested two boys in making a first aid station out of the building which had been a fort. They lacked knowledge of what was needed, so the teacher arranged an excursion taking four boys and two girls to tne nearby O.C.D. First Aid Station. They noted particularly the first aid signs, medical insignia, the way the attendants carried the stretchers and what equipment was ready for use by the nurses. Back in their own play room they immediately began making signs, doctor's kits, nurse's uniforms, and bandages.

After working awhile on the first aid station the boys again began active combat play, bringing the "wounded" into the first aid station where the girls were acting as nurses. As the play became rough the teacher had a discussion with the boys about shooting near the first aid station, and it was decided to use the opposite end of the room for a fort. A squad of ambulance drivers used a board for a stretcher, put it on a cart, and wheeled the "wounded" into the first aid station. Here the "nurses" gave first aid, helping some to walk with crutches. In the midst of this play one boy noticed that the sign over the first aid station was the air raid warden insignia, rather than a first aid sign. At the teacher's suggestion a group of five children took crayons and paper and went to the O.C.D. First Aid Station again to make a copy of the insignia. They then put these drawings on their first aid station and ambulances. The above play lasted over the full two-week period and was terminated by the end of the school session. This incident shows how a teacher, who was alert to needs arising in the group, helped the children find the necessary information to progress to desired goals in their activity. Although most of the war play observed was not of this high level of organization, the above example shows that

with teacher guidance much of the war play might be directed along lines which might lead to higher educational values.

The Extent to Which War Play Takes Place and Proportion of Children Participating

A second consideration in a study of war influences as evidenced in children's play is the extent to which war play appears and the proportion of children who participate. War play occurred extensively in the play of the kindergarten children. This is indicated in a statement made previously that in both observation groups influences of war in children's play were seen during each observation period, with the exception of one. In most instances this war play continued throughout the entire period. On those occasions when it was of short duration it was found that the leader of the group was absent or that the general routine of the school was upset. Since these observations were made during the free play period only it was not possible to observe to what extent war play occurred during the rest of the school day. The data from both observation groups agreed that the majority of boys participate in active dramatic war play at some time. A few of the less aggressive boys were never seen to participate but were sometimes seen to observe the war play or to take part in an imitative way on the sidelines. Only a few girls were seen to take part in active dramatic war play and these few were of the more aggressive type.

The data from teachers' reports on the questionnaires agreed fundamentally with the above findings on the two observation groups. War play was evidenced daily in every school with the exception of one which happened to be one of the church groups. Also all schools with the exception of this same church group reported that war play usually continued throughout the entire free play period. Nine of the thirteen schools mentioned seeing war play or evidence of war influences not only during the free play period but also at other times of the day in conversation periods, during lunch, in rhythms, etc. In regard to the proportion of children participating in war play, the findings from the reports of teachers agreed with those from the observation groups that the majority of boys at some time participated in war play but that some children were never seen to participate and that these for the most part were girls or timid boys.

Participation in War Play in Relation to Sex, Race, and Home Background

A third group of factors which was investigated concerns

the relationship between participation in war play and sex, race, and home background. In the two observation groups it was noted that boys participated much more frequently than girls in the creation of war models in clay work and block building and in active dramatic war play. In many instances where boys were creating war models or engaged in war play girls were present but showed no interest in the war projects and continued making things related to housekeeping play such as houses, beds, dishes, etc. For example, in one instance a group of girls was playing with blocks together with a group of boys who were building forts. Although the structures were similar the girls called theirs houses. In another instance a group of girls was playing in the doll house when some boys came in and started shooting out of the windows. The girls, instead of entering into the war play, got out of the boys' way and went on with their doll play. In both observation groups there were only three instances noted where girls participated in war play. It should be remembered, however, that painting and drawing were not observed in these two groups.

In the matter of sex differences, the collection of paintings showed similar findings to those noted in clay modeling and block building, that war interests are much more marked among boys than girls. Forty-six per cent of the boys as compared with 8 per cent of the girls painted war pictures. Sixty-six per cent of the boys' war paintings concerned armaments while none of the girls' war paintings depicted armaments. The girls' war paintings concerned other aspects of war such as flags, symbols, and blackout.

In general, the results from teachers' questionnaires agreed with the observational data that in all activities boys participate in war play much more frequently than girls. However, some interest in war on the part of the girls was reported in clay modeling and block building. In clay modeling the girls, like the boys, primarily made armaments. However, in block building teachers reported that the girls showed more interest in the less aggressive phases of war such as the construction of hospitals, shelters, and so forth, while the chief interest of the boys was in the construction of armaments. One school reported that the girls constructed houses for the boys to bomb. In active dramatic war play teachers reported that in some instances girls were seen to participate but that here again in contrast to the boys' interest in actual combat play, the girls showed an interest in the dramatization of first aid, evacuation, blackout, and air raid drills. In painting and drawing the reports of teachers were in total agreement with the data obtained from the special collection of paintings referred to above.

In regard to the race and home background of children participating in war play, both the observational and questionnaire data reveal no significant relationships. Among a group of twelve children who were noted to be frequent participants in war play many racial backgrounds were represented and no particular race predominated. Only two of these children come from homes where either parent was directly engaged in a war activity. Although teachers in several instances reported that children markedly interested in war play came from homes where one parent worked at Pearl Harbor, no clear relationship between home background and participation in war play was apparent.

The Initiating, Terminating and Over-Stimulating Circumstances of Active Dramatic War Play

Another consideration in children's war play concerns the factors which initiate and terminate it and the circumstances under which it may become over-stimulating. Both the observational and questionnaire data indicate that the most common factor which appeared to initiate war play was the completion of models of war in clay work and block building. In the two observation groups where the war play of a particular group could be observed continuously it was noted that there was a definite carry-over of the war theme from day to day. In block building the original motivating factor seemed to be completion of models of war, but as the play progressed the goal of the activity seemed to shift from construction for its own sake to a specific kind of construction necessary to war play, the construction becoming secondary to the primary goal of war play. In clay work, although the completion of war models often precipitated war play, construction appeared to remain the primary goal. This difference in the two play situations appears to be related to the medium of play, blocks being a material which better lends itself to active war play and which probably is less flexible than clay for the purpose of construction. Other motivating forces which appeared to be important in initiating war play were: The influence of outside stimuli such as planes flying overhead and army maneuvers; the spontaneous aggressiveness of a particular child; and the development of war play as a result of the natural dramatic trend of a play situation. The influence of outside stimuli in initiating war play was seen in an instance where a marked interest in war play coincided with the first day of army maneuvers. However, it is interesting that a routine school air raid drill appeared to have no influence in initiating war play. An example of war play growing out of a

normal play situation was seen in an instance where a group of children were playing candy store. As the play progressed the store gradually turned into an ice cream supply department for the air raid shelter, "in case they have to stay all night."

Concerning the termination or interruption of war play, all data indicated parallel factors to those discussed in relation to the initiation of war play. Whereas the completion of war models tends to initiate war play, the destruction of war models tends to terminate or interrupt it. For example, in clay work a child would model an airplane, load it with bombs, fly it, drop the bombs, and finally crash it on the table. With this destruction of the model the war play would terminate and the interest would again return to construction. A second parallel is noted in the influence of outside stimuli such as shifts in school routine and the diverting influence of other activities. A third parallel concerns the factor of aggressiveness. Whereas aggressive direction on the part of a particular child appeared to have a role in initiating war play, aggressive interference appeared important in terminating or interrupting war play. A fourth parallel may be seen in the natural dramatic trend of a play situation where a climax is reached and the play comes to a natural dramatic ending such as the declaration of victory in combat play. In addition to these factors there were two other factors noted which appeared to be important in the termination or interruption of war play, namely, the disapproval of the teacher and the absence of leadership. Although it is probable that leadership tends to initiate war play this becomes apparent only by the fact that absence of leadership tends to terminate or interrupt war play. For example, when a particular child left the play group the play seemed to become disorganized and finally broke up. It was also noted that on several days when this child was absent there was no evidence of organized war play.

It is also interesting to consider some of the factors which tend to make war play highly stimulating and which might lead to over-stimulation. By over-stimulation is meant a level of stimulation which produces in a child or group of children a state of fatigue, uncontrolled behavior, and emotional instability which would prevent them from participating in and enjoying normal activities. Throughout the play in both observation groups many factors were noted which appeared to be making the play highly stimulating. In observing the progress of the play, however, it was noted that in most instances the apparent excitement tended to rise and fall in cycles and that whenever a peak of excitement was reached there appeared to be a natural leveling off. For example, a group of children engaged in combat play were pointing guns at each other and shouting, "Aim!

Fire!" at the same time making the sounds of machine guns and rifle fire. In the midst of this noise and activity one child was shouting, "This is an air raid alarm! Take cover!" The general excitement gradually increased to a climax, after which there was a definite lull, so apparent that one child remarked, "Nobody make noise!" This quiet and decreased activity continued for a few minutes after which the play was again resumed with a gradual rise in excitement, accompanied by loud machine gun firing, shouting and hand to hand combat. This excitement reached a certain level when the noise and activity again subsided. Although the play frequently reached a high peak of excitement in only two instances did it appear to reach a level which could be considered over-stimulating. The direct cause of the over-stimulation seemed traceable in each case to the presence of a particular child who was a disturbing factor in the group and who was reported by the teacher to be a disturbing factor in any group.

Although there were only these two instances of over-stimulation, there were many factors noted, both in the observation groups and from reports of teachers which appeared to increase the level of stimulation. Should a number of these be present at one time and not controlled, over-stimulation might result. This would seem to deserve consideration from the point of view of teacher guidance. The factors most frequently noted as tending to increase stimulation were long duration of play, excessive noise, over-realistic dramatization, the presence of over-aggressive or poorly adjusted children, frustration or teacher interference, fatigue, quarreling and destructiveness, aimless activity, and general lack of supervision. There is, of course, some difficulty in an analysis of this type in distinguishing between the cause and effect of over-stimulation. Actually there is probably no clear distinction between the two for the reason that fatigue or aggressive tendencies resulting from highly stimulating play may become the cause which makes the play over-stimulating.

An example of over-realistic dramatization may be seen in the following: Two groups of boys were firing at each other. One boy grabbed his face and went through very realistic actions and facial contortions as if in pain, finally falling on the floor "dead". Two other boys came over to him and started poking their sticks into him, using them as bayonets. With this the first boy got up and left the group, acting as if he were hurt. In many instances where the children obviously sensed a lack of supervision it was noted that the play tended to become hilarious. In contrast to this it was also noted that when children were frustrated by actual teacher interference there also appeared to

be a tendency to hilarity and in some instances destructiveness. Although such factors as these appear to make play highly stimulating and are factors which should be borne in mind by teachers, it nevertheless should be emphasized that in the free spontaneous play of the children observed there were only two instances which were felt by the observers to be actual instances of over-stimulation.

Participation in War Play in Relation to Social, Emotional and Personality Factors

The question of possible over-stimulation discussed above leads us to a consideration of the effect of participation in war play on social and emotional development and its relationship to personality factors. In relation to social development the specific question that comes to mind is, to what extent do children engaged in war play reveal undesirable social attitudes such as race prejudice, autocracy, and hostility. In a situation of this kind where, due to the racial make-up of the population, race prejudice might be expected, it is interesting that in both observation groups not a single instance of race prejudice was noted throughout any of the observation periods. In fact, children of Japanese ancestry constantly played side by side with children of American, Hawaiian, and Chinese ancestry making similar references to the "Japs" as the enemy. The use of the term "Japs" by these children appeared to have no racial significance to them whatsoever but was merely a name for the enemy. It was noted that the Germans were also frequently referred to as the enemy. The reports of teachers on this question agreed on the whole with the observational data, only three schools reporting any evidence of race prejudice and these noting only single instances which were not clearly defined.

One might think that living under war conditions and particularly conditions of martial law might tend to produce autocratic attitudes. However, in the observation of these groups of kindergarten children the democratic attitude for the most part seemed to predominate even in active war play. In the reports of teachers there was not a single instance of autocratic attitudes noted, and the few instances noted in the observation groups did not appear to be related to the war play but rather appeared to be personality manifestations of individual children. These children displayed the same autocratic attitudes in other play activities.

Although the war play frequently became markedly aggressive there was at no time any evidence of hostility noted in either observation group. In the questionnaire data teachers from only

three schools reported seeing occasional instances of hostility; however, other teachers from these same schools claimed to see no evidence of hostility whatsoever. This apparent absence of attitudes of race prejudice, autocracy, and hostility points to the fact that even in war play the normal wholesome values of play seem to be retained. In fact, both the questionnaire and observational data gave some evidence of positive social values such as cooperativeness and humanitarianism coming out of war play. Time and time again throughout combat war play there were instances of children helping one another, seeing the situation as a whole, and adapting their individual play activities to the goal of the group. Humanitarian attitudes were brought out in dramatization of first aid and rescue work. In some instances these positive aspects of war play, although sometimes initiated by the teacher, were followed through with interest by the children and often recurred spontaneously.

In relation to emotional development it has been the contention of some that war play among children should be suppressed for the reason that it might lead to increased fears and general emotional instability. However, both the observational and questionnaire data revealed no single instance in which war play seemed to produce fear in children and in those few instances where emotional instability was observed this did not seem to be directly related to participation in war play. In fact, war play in many instances seemed to offer emotional release and to aid in overcoming fear. For example, one teacher reported that children who seemed to be afraid when they heard planes flying low overhead soon overcame this fear when they saw other children playing war games such as dropping bombs from planes.

In consideration of the relationship between participation in war play and personality factors several questions present themselves. Do only aggressive children take part in war play or do conditions of war also appear to influence the behavior of the passive or withdrawn child? From both the observational and questionnaire data it is apparent that the children who participate most frequently in war play are primarily the aggressive ones. However, it is noted that the passive child shows a definite interest and although he does not take part in active war play he does participate in the construction of war models and is frequently an observer of active war play. In addition, there is no evidence to believe that passive children participate any less frequently or aggressive children any more frequently in war play than they do in any other kind of cooperative group play. A second question concerning personality factors in relation to war play is, to what extent is leadership responsible for the development, direction, and general course of war play? All

data revealed that the person who was the initiator of the war play was also often responsible for the organization and direction of the play, and was frequently a leader in any group play. In fact, this leadership was so apparent in the war play that in one instance a single boy was responsible for choosing the activity of block building and directing the building of three seaplanes by other children without placing a single block himself. He then directed the war play that followed but soon lost interest, left the group and went to the table to look at books. With this the war play broke up almost immediately and several children followed him to the book table. This boy, who was repeatedly the initiator and director of war play in this group, was also reported by his teacher to be a leader in his neighborhood group. A third question concerning personality factors in relation to war play is, do positive personality characteristics appear to be fostered by war play? All data from both the observational groups and reports of teachers on questionnaires point to a definite positive answer to this question. This does not mean that war play has any specific features which make it a particularly favorable learning situation but it does mean that war play probably offers as good an opportunity for the fostering of positive personality characteristics as is offered by any normal play situation. Both the teachers and the observers saw evidence that war play contributed to the development of an interest in perfection of construction, keenness in observation of detail, initiative, self-reliance, fair play or sportsmanship, cooperation, and general adaptability.

SUMMARY

From the data obtained in the investigation of war influences as evidenced in the play of kindergarten children in Honolulu the following summary is given:

1. Influences of war were evidenced extensively among kindergarten children and were not limited merely to making models of war in the creative activities but were also observed in active dramatic war play. War influences in the creative activities were represented primarily in the making of armaments, but there were also representations of symbols, defense measures, and the more positive phases of war. Although the war theme was prominent in these activities it was not an exclusive interest and there appeared to be joy in the activity for its own sake with a marked interest in detail and perfection. In other words, the normal values of the activity seemed to be retained.

War influences were most frequently observed in active dramatic play. The nature of this play was usually dramatization of the more aggressive phases of combat but there were also dramatizations of other aspects of war. In general the play lacked the continuity of the well organized project type of play and was characterized by a child-like transitory qualtiy. However, there was a definite carry-over from day to day and with careful teacher guidance the war play achieved some of the educational values of a directed project.

2. Instances of war play occurred daily and for the most part continued throughout the entire free activity period. The majority of boys participated in war play at some time, but some children, primarily girls and timid boys, were never seen to participate. This would tend to indicate that the war interest is manifested extensively in the play of a large proportion of kindergarten children but that it is not a primary interest of all children.

3. War interests were evidenced much more frequently among boys than girls in all activities. The boys' primary interest appeared to be in armaments and combat play, while the girls evidenced more interest in the less aggressive phases of war. While there appeared to be a definite relationship between sex and the manifestations of war interests no such relationship was apparent with regard to race or home background.

4. A parallel group of factors appeared to be responsible for the initiation and termination of active dramatic war play, namely: the completion and destruction of models in creative activities; the influence and distraction of outside stimuli; the aggressive direction and interference of a particular child; and the natural dramatic trend and climax of a normal play situation. The most common initiating factor appeared to be the completion of war models. Two additional terminating factors were the disapproval of the teacher and the absence of leadership.

The level of stimulation of active war play appeared to rise and fall in cycles. Factors which tended to increase the degree of stimulation were: long duration of play, excessive noise, over-realistic dramatization, the presence of over-aggressive or poorly adjusted children, frustration or teacher interference, fatigue, quarreling and destructiveness, aimless activity and general lack of supervision. Although the war play often became highly active, exciting, and hilarious, it seldom reached a harmful level of overstimulation.

5. There was no evidence that war play has an un-

desirable effect on social and emotional development. There was no instance where race prejudice, autocratic attitudes, or hostile feelings appeared to develop as a direct result of participation in war play, and there was some evidence of positive social values coming out of war play. Likewise, there was no indication that war play increased fear or emotional instability and in many instances it seemed to offer emotional release and aid in overcoming fear.

Some relationship was noted between participation in war play and personality factors. The aggressive personality type participated much more frequently in war play although the passive child was influenced to some extent by war stimuli. The quality of leadership also seemed to be an important factor in war play. There was evidence from all data that participation in war play as in any normal play contributes to the development of certain positive personality characteristics.

6. Hence war play which takes place among a large proportion of kindergarten children seems to be merely another normal manifestation of the effects of environmental stimuli. This play affords an opportunity for self-expression and the release of bodily tensions and at the same time appears to retain all the values of normal play. When supervised it seldom reaches a harmful level of overstimulation, has no deleterious effects on social and emotional development, and even contributes to the development of some positive personality characteristics. Thus, we are led to the conclusion that there is no justifiable reason for suppressing war play. In fact, it would seem unwise and perhaps even dangerous to suppress war play since it has been shown that where war play is frustrated by teacher interference it tends to become over-stimulating and destructive. Among boys at least there is not only a definite need for expression of these war interests, but war play apparently offers a means of sublimating natural aggressive and sadistic impulses. It would therefore seem advisable for teachers to make use of what appears to be a normal play situation and attempt to guide war play in a direction which will foster positive educational values.

APPENDIX

QUESTIONNAIRE

We know children's play is affected by their surroundings. Therefore we are interested to know in what way the conditions of war are evidenced in children's play. On the basis of your observations in your group, will you please answer the following questions as accurately as possible.

1. Have you seen any war play in your group?

2. Describe in what way this has been evidenced, in:
   a. Painting or drawing:
   b. Clay work:
   c. Block building:
   d. Dramatic play:

3. Has this war play been limited merely to using models of war for creative endeavor, or have you seen groups engaged in actual dramatic war play?

4. Do you see evidences of war play daily, or just occasionally?

5. What proportion of the total playtime seems to be occupied in war play?

6. Does war play, or reference to war conditions, occur only during the free playtime, or do you also notice it during the rest of the school day?

7. Do all children at some time show evidence of war play, or have you noticed any children who never take part in war play?

8. What differences have you noticed in war play among boys and girls?
   a. In painting or drawing?
   b. In clay work?
   c. In block play?
   d. In active dramatic play?

9. Do you notice any difference in the extent to which different races take part in war play?

10. To what extent does the child's home background influence him in his war play?
    e.g. Does a child whose father is in the army or navy, or a defense worker appear to show more interest in war play than other children?

11. What seems to start active dramatic war play?

12. What seems to break up active dramatic war play?

13. Under what circumstances do you think that war play can become over-stimulating?

14. To what extent do children reveal certain social attitudes in war play?
    e.g. Race prejudice, social class distinction, democratic vs. autocratic attitude.

15. Is there any evidence of hostility, and is it directed toward certain individuals or groups of individuals?

16. Are there any instances where war play seems to produce fear in any children?

17. Do only aggressive children take part in war play or do conditions of war also appear to influence the behavior of the passive or withdrawn child?

18. Is the same person the initiator of the dramatic war play, as well as the leader in this play?

19. Is this same child usually a leader in any group play?

20. Is there any evidence of positive or constructive values in war play?

THE HURDLE JUMP AS A MEASURE OF THE MOTOR PROFICIENCY OF YOUNG CHILDREN[1]

DORIS M. HARTMAN

Introduction

The various studies of motor performance have given rise to two conflicting concepts concerning the motor sphere of activity, namely, 1) that there is a general motor ability, as contrasted to the concept, 2) that there are a number of specific motor abilities.

In view of the more recent studies which support the concept of specific motor abilities, the hurdle jump experiment by Cowan and Pratt (3) is of especial interest. The writers stated that "the form and height of a standard hurdle jump may be measured with sufficient exactitude to provide a quantitative test of gross motor coordination correlated closely with chronological age and applicable to children 3 to 12 years inclusive." (3, p. 121).

The present study was designed to determine the value of the hurdle jump as a measure of the motor proficiency of young children. Its objectives were:

(1) To determine the reliability of the hurdle jump.
(2) To discover the inter-relationship between hurdle jump achievement and the achievement on selected gross motor tests.

Selection of Tests

Each test used was selected on the basis of the following criteria: (a) it was considered to be a measure of gross motor coordination (as opposed to fine eye-hand coordinations) since the hurdle jump was of this type; (b) it could be scored linearly (as opposed to success or failure); (c) it had fairly high reliability. The study made by Jenkins (5) of children 5, 6, and 7 years, and that of Carpenter (2) with children of the primary grades, provided tests for approximately the ages considered in the present experiment. With the assistance of these studies the following tests were selected: (a) jump-and-reach, (b) standing broad jump, (c) baseball throw for distance, and (d) thirty-five

[1] *This study, from the Iowa Child Welfare Research Station, was directed by Dr. Beth L. Wellman.*

yard dash.[2]

Procedure

All tests were administered indoors with the exception of the thirty-five yard dash and the baseball throw for distance. It was necessary to give the latter test indoors in a large gymnasium for one group of children.

With the exception of the hurdle jump, three trials were given for each test and the mean derived from the three trials was taken as a single score to represent achievement on the tests. This procedure seemed justified on the basis of being more representative of the "real" ability than would any single one of the three trials.

The procedure for the hurdle jump followed closely that used in the Cowan and Pratt study (3). Starting from the lowest peg, each time the child was able to jump over the pole, it was moved up. No more trials were given when there were failures to clear the pole on two successive jumps. This procedure was followed in order that the results would be comparable to those of Cowan and Pratt (3).

The Subjects

The 56 subjects involved in the present experiment represented an age range of twenty-nine months. Between the ages of 49 and 78 months, 29 boys and 27 girls were tested. The children were drawn from the State University of Iowa Preschool group, the Junior Primary class of the University elementary school and from a parochial school.

Retest Reliability

The entire group of 56 children were retested on the battery of tests from one to fourteen days after the first tests were given. On the retest series the procedure was the same as in the first series, each child receiving three trials except on the hurdle jump. Table 1 indicates the test-retest correlations obtained. Tests having highest reliabilities were the hurdle jump and thirty-five yard dash, each having a reliability coefficient of .88. Cowan and Pratt (3) gave no reliability on the hurdle jump with which this coefficient may be compared. The re-

[2] *In addition to these tests, items F, E and H of the Carpenter tests of motor educability were tried out, but were found to be too difficult for the children of this study.*

liability obtained on the dash is approximately the same as the retest reliability found by Carpenter for primary age children, but is considerably higher than that of Jenkins (5) who reported a reliability of .74 for children 5 to 7 years.

TABLE 1

RELIABILITY COEFFICIENTS FOR THE VARIOUS MOTOR TESTS BASED UPON RETESTS OF THE ENTIRE GROUP

Test	Reliability Coefficient
Hurdle Jump	$.88 \pm .02$
Thirty-five Yard Dash	$.88 \pm .02$
Baseball Throw	$.83 \pm .06$
Standing Broad Jump	$.86 \pm .02$
Jump-and-Reach	$.63 \pm .05$

Reliabilities for the baseball throw and the standing broad jump are approximately the same as those found by other investigators (1) (5).

The jump-and-reach test yielded the lowest retest reliability coefficient. This may be partially explained through the differences between the heights of the stand-and-reach in the test and retest. In the performance on the jump-and-reach test, the child was first told to stand and reach. This height was subtracted from each of the three successive jump and reach trials which followed, to give the jump-and-reach score. In some cases it was noted that the child would jump and reach to the same height on test and retest but, due to the difference in height of the stand-and-reach on the different days, the jump-and-reach scores would differ. That the younger children had considerable difficulty in reaching at the same time they were performing the jump may also be an explanation for the lower reliability of the test. However, the reliability coefficient found in the present experiment is similar to that reported by Jenkins (5).

For the statistical computations to follow, first test scores were used.

Gesell Grading Method

Cowan and Pratt (3) studied the proficiency of the hurdle jump performance by a comparison of each child's achievement with that of his age group. The age divisions used by them for

4, 5, and 6 year old children are given below, with the number of children in each group tested in the present experiment.

Age in Years	Age in Months	Number of Children
4	48-59	15
5	60-71	27
6	72-83	14

The Gesell system of assigning letter grades to different levels of performance was used by Cowan and Pratt (3). According to this system, a grade of A+ is assigned if the child's performance falls within the top 19 per cent of his group, a grade of A if his performance falls within the top 20 to 49 per cent of his group, etc.

Per Cent	Letter Grade
1 - 19	A+
20 - 49	A
50 - 64	B+
65 - 84	B
85 - 100	C

Cowan and Pratt (3) reported the advancement in height of the peg jumped with increase of age. Using either the median jump or the Gesell "C", this development in the jumping achievement was shown. Table 2 gives the results of their study restricted to ages 4 through 6 years, which may be compared with Table 3 showing data from the present study. Both tables combine the sex groups. As the subjects of the present experiment do not exceed 78 months, the 6 year group includes children of

TABLE 2

GESELL "C" AND MEDIAN JUMP ACHIEVEMENT ON THE HURDLE JUMP FOR BOTH SEXES REPORTED BY COWAN AND PRATT

Number of Cases	Age	Number of Peg	
		Median Jump	Gesell "C"
37	4	5	2
40	5	8	5
27	6	9	6

only a 6 months age range, whereas the data in the 6 year group of Cowan and Pratt (3) included children from 72 to 83 months of age. Thus the lower median score obtained in Table 3 in this experiment may be expected. Other discrepancies may be partially explained on the smaller number of cases tested at each age level in the present study.

TABLE 3

GESELL "C" AND MEDIAN JUMP ACHIEVEMENT ON THE HURDLE JUMP FOR BOTH SEXES FOUND IN THE PRESENT STUDY

Number of Cases	Age	Number of Peg	
		Median Jump	Gesell "C"
15	4	6	1
27	5	7	3
14	6	7.5	6

To study the relationship of the hurdle jump to the various motor scores, the Gesell grading system was used to convert achievement by age groups on each of the tests into letter grades. This procedure enabled inter-test comparisons of achievement for each child to be made. The small number of cases in each age group has resulted in percentages which can only be considered tentative.

The grade equivalents for the cumulative per cents on the jump-and-reach, the broad jump, the throw, and the dash tests were computed. After the letter grades had been assigned, each child's performance on the five tests was converted into letter grades. Only two cases were noted in which the same letter rating was consistently maintained on each of the five tests. Subject Number 1, who was a girl, and Number 35, a boy, each received a "C" rating on every test. Four children received identical ratings on four out of the five tests. There were four children who received among their scores an "A+" which was the highest achievement, and a "C", the lowest rating. Seventeen others received at least one "A" and one "C" showing there was much individual variability in performance on the different motor tests. These data bear out the findings in the literature concerning the irregularity in the individual motor profile.

Before the intercorrelations between the five motor tests could be computed, it was essential to discover if consistent sex differences in achievement existed. Should consistent sex differ-

ences be found, scores for the boys' and the girls' groups would need to be correlated separately. As other studies in the literature had reported the presence of sex differences at the upper pre-school levels (7) (8) but not at the lower levels on the same motor tests, it was necessary in the present study to divide the total group of 56 children into age groups.

The small numbers of children of each sex in the 4, 5, and 6 year groups used for the Gesell scoring were too limited to permit the accurate computation of sex differences. Therefore, the 56 children were divided into a younger group, 49 to 66 months, and an older group, 67 to 78 months of age.

TABLE 4

MEANS, STANDARD DEVIATIONS AND STANDARD ERRORS OF BOYS AND GIRLS BY AGE GROUPS ON EACH TEST

	49 to 66 months				67 to 78 months			
	Number	Mean	Standard Deviation	Standard Error of Mean	Number	Mean	Standard Deviation	Standard Error of Mean
Hurdle								
Boys	15	4.4	3.01	.81	14	8.0	2.20	.61
Girls	15	5.9	2.38	.64	12	5.5	3.10	.93
Dash								
Boys	15	10.8	1.66	.44	14	8.0	1.19	.33
Girls	15	9.7	1.26	.34	12	7.1	2.11	.64
Throw								
Boys	15	154.1	42.62	11.43	14	208.3	85.03	23.55
Girls	15	140.0	59.72	15.98	12	118.2	61.50	18.53
Broad Jump								
Boys	15	21.5	5.71	1.53	14	24.6	4.44	1.23
Girls	15	25.0	6.18	1.65	12	20.0	7.55	2.28
Reach								
Boys	15	2.1	1.24	.33	14	2.7	1.02	.28
Girls	15	2.4	1.61	.43	12	1.9	1.04	.31

Table 4 gives the means on each test, standard deviations, and standard errors of the mean of each sex for the younger and older groups. It should be noted that the scores for the dash are recorded in seconds, hence the numerically smaller mean is superior. A comparison of the means for the boys at the two age levels indicates that the younger group was excelled by the older group on every test in the battery. An inspection of the means for the two age groups of girls shows the superiority of the older on the dash, equality of the groups on the hurdle, and the superiority of the younger group on the baseball throw, the broad jump and the jump-and-reach. The group of girls 49 to 66 months excelled all other age and sex groups on the standing broad jump. The lowest performance on the jump-and-reach

was made by the oldest group of girls. There appears to be some peculiarity in the sampling of girls.

The significance of the difference between the sex groups for the older and for the younger age groups was determined by the computation of t values.[3] For children 49 to 66 months, superiority of the girls was indicated on the jump-and-reach, broad jump, dash, and hurdle. The differences are not statistically significant at the 5 per cent level of confidence. The mean sex difference in ball throwing at this age was non-significant; however, the difference favored the boys' group.

Sex differences are more pronounced in the older group. At this age the boys' mean scores excelled those of the girls on every test, with the exception of the dash. Only on the baseball throw for distance, however, was the difference significant at the 1 per cent level of confidence. Sex differences at this age level on the hurdle jump yielded a t value of 2.34 which is significant at the 5 per cent level of confidence for 24 degrees of freedom.

Intercorrelations

As the object of the present study was to determine the value of the hurdle jump as a measure of motor proficiency, the computation of intercorrelations of the hurdle with the other tests was the next step in the analysis of the data.

It was found that the only sex difference at either age level which was significant at the 1 per cent level, in the motor abilities tested in the present study, appeared in the baseball throw for distance in the older age group. All other tests with the exception of the hurdle jump which was significant at the 5 per cent level in the older age group showed non-significant sex differences. Also the direction of the differences in the means for the sex groups at the two age levels was not consistent, that is, the girls were superior on four tests at the younger level, but superior on only one test at the older level, showing that

[3] *All t values for this study were computed by the following formula, taken from Lindquist, E. F., A First Course in Statistics, p. 138.*

$$t = \frac{M_1 - M_2}{\sqrt{\left(\frac{N_1\sigma_1^2 + N_2\sigma_2^2}{N_1 + N_2 - 2}\right)\left(\frac{N_1 + N_2}{N_1 N_2}\right)}}$$

the differences in achievement could not be attributed to sex factors alone. Therefore, the sex groups were combined for inter-test correlations.

The Pearson product-moment method was used for the computation of the correlation coefficients. Table 5 shows the inter-test correlation coefficients when each test was correlated with every other test. The correlation of the hurdle jump with each of the other tests yielded coefficients ranging from .44 ± .07 to .53 ± .07. This indicated that knowledge of hurdle jump achievement would give a 10 to 15 per cent improvement in the prediction over a "best guess" of the probable success on the other tests.[4] As shown by the inter-test correlation, the hurdle jump appears to be of little value as a predictive measure of other motor abilities. Table 5 also shows the lowest correlations between any two tests to be that of the throw and dash which correlated .36 ± .08. The highest correlation was found between the dash and the jump-and-reach, .56 ± .06. In view of the high probable errors for the correlation coefficients, one test may have little value over another as a predictive measure.

TABLE 5

INTERCORRELATION AND MULTIPLE CORRELATION COEFFICIENTS BETWEEN THE VARIOUS TESTS

BOYS' AND GIRLS' ACHIEVEMENTS COMBINED

	Multiple Correlation	Intercorrelations			
		Dash	Throw	Broad Jump	Jump-and-Reach
Hurdle	.64	.53 ± .07	.44 ± .07	.47 ± .07	.52 ± .07
Dash	.66		.36 ± .08	.53 ± .06	.56 ± .06
Baseball Throw	.60			.41 ± .07	.54 ± .06
Broad Jump	.62				.53 ± .06
Jump-and-Reach	.71				

The relatively low inter-test correlation coefficients of the hurdle jump, as well as those of the other tests, seem to indicate that the five motor tests used in the present experiment are measuring different motor abilities.

Multiple Correlations

It was assumed that if the hurdle jump measured "general motor ability" of which the other tests measured but a part, the combined weight of the remainder of the tests could be expected to correlate more highly with the hurdle jump than each one had correlated individually with the hurdle jump.

[4] Lindquist, E. F., A First Course in Statistics, see graph p. 186.

Griffin's (4) method of computing the multiple correlation coefficient was employed. Table 5 presents the multiple correlation coefficient of the hurdle jump with the remaining tests. It also shows the multiple correlation coefficients for each of the other motor tests when correlated with the others as a group. It will be noted that these multiple correlations are considerably higher than the single inter-test correlations. This finding confirms the assumption made in the previous paragraph.

When correlated with the four other tests, the hurdle jump had a multiple correlation coefficient of .64 which was similar to that of the other tests. Thus the hurdle jump does not appear to be a better index of the motor abilities tested in the present experiment than are certain other tests. No single test appears to be an adequate measure of the abilities included here.

SUMMARY AND CONCLUSIONS

The purpose of the present experiment was to determine the value of the hurdle jump as a measure of the motor proficiency of young children. An attempt was made to determine the reliability of the hurdle jump and to discover the interrelationship between hurdle jump achievement and the achievements on a group of gross motor tests.

In addition to the hurdle jump test as used by Cowan and Pratt (3), the gross motor tests used in the present experiment were selected on the basis of linearity of scoring, suitability to age, and reliability as shown by previous studies. The tests used were the jump-and-reach, the standing broad jump, the baseball throw for distance, and thirty-five yard dash.

The test and retest achievements of 56 children 49 to 78 months of age were recorded. The retest reliability coefficients of the various tests based upon the achievements of all 56 children showed the hurdle jump to be one of the most reliable measures. The hurdle jump and the thirty-five yard dash each yielded a correlation of .88. With the exception of the jump-and-reach which yielded a correlation of .63, all reliabilities were above .80.

The 56 children were divided into 4, 5, and 6 year old groups in order to make comparisons by the Gesell grading method used by Cowan and Pratt (3) and to make comparisons between achievements on each of the tests. A comparison of the various test achievements converted into Gesell letters showed much individual variability in performance from test to test on the motor skills tested.

The children were also studied in two age groups: the

younger group ranged from 49 to 66 months, the older group from 67 to 78 months. There were no significant sex differences in motor achievements in the younger group although the girls were superior on all tests, with the exception of the ball throw. In the older group the sex difference in baseball throwing achievement was significant at the 1 per cent level of confidence, and in the hurdle jump achievement, the sex difference was significant at the 5 per cent level of confidence. On both of these tests, the boys excelled the girls. Since there were no consistent sex differences present at both the younger and the older age levels, the sex groups were combined for inter-test correlations.

The correlations of the hurdle jump with each of the other tests yielded coefficients ranging from .44± to .53±.07 showing that the hurdle jump, while positively related to them was of little value as a predictive measure of the other motor abilities tested. The low inter-correlations between the five motor tests (.36+.08 to .56±.06) suggest that while the tests have something in common, different motor abilities have been sampled to a large degree.

Multiple correlation coefficients were computed for each test with the remaining tests in the battery. The multiple correlation coefficient of the hurdle jump was .64, in comparison with a range of from .60 to .71 on the other tests. Thus the other tests would appear to be as good single indicators of the motor abilities tested in the present experiment as the hurdle jump.

The primary objective of the present study was to determine the value of the hurdle jump as a measure of motor proficiency of the young child. As indicated by the two techniques used in the treatment of results, the motor achievement profile utilizing the Gesell letter grades and the single and multiple correlation, the hurdle jump as a single measure appears to be inadequate for estimating the motor proficiency of the kindergarten child, as determined by the tests used in the present study.

REFERENCES

(1) Carpenter, Aileen: The differential measurement of speed in primary school children. Child Develop., 1941, 12, no. 1, 1-7.

(2) Carpenter, Aileen: Tests of motor educability for the first three grades. Child Develop., 1940, 11, no. 4, 293-299.

(3) Cowan, E. A. and Pratt, B. M.: The hurdle jump as a developmental and diagnostic test of motor coordination for children from three to twelve years of age. Child Develop., 1934, no. 5, 107-121.

(4) Dunlap, J. W.: Workbook in statistical methods; with special reference to the social sciences. New York, Prentice-Hall Inc., 1939, pp. 145.

(5) Jenkins, L. M.: A comparative study of motor achievements of children five, six and seven years of age. Columbia Univ., Teach. Coll. Cont. Educ. 1930, no. 414, 54.

(6) Lindquist, E. F.: A first course in statistics, their use and interpretation in education and psychology. New York, Houghton-Mifflin, 1938, iii, 226.

(7) McCaskill, C. L.: A study of common motor achievements at the preschool ages. State University of Iowa, Master's thesis, also Childhood Educ., 1936, 13, 311-316.

(8) McCann, Kathleen: A seriatim study of motor achievements of preschool children. State University of Iowa, Unpublished Master's thesis, 1936, 94.

THE EFFECTS OF EARLY INSTITUTIONAL CARE ON ADOLESCENT PERSONALITY (GRAPHIC RORSCHACH DATA)

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The Graphic Rorschach Examination is one of the recently developed projective techniques for the study of personality. The test manual includes specific directions for the administration and scoring of the test (7). These will consequently not be repeated here in detail. However, a brief description of the test may make more comprehensible the data which follow. The subject is required to draw what he sees in the Rorschach ink blots from the cards themselves. He is encouraged to alter the blot features in any way he desires, in order to give the best representation of what he sees. He is given colored crayons to use if he desires to use color in a representation of the percept.

It is apparent that the graphic product may adhere to the original attributes of the blot, to the attributes of the subject's concept of the thing perceived, or to a compromise between the blot and the subject's concept. Each drawing is rated separately on the following five scales:

Scale 1 - Role of relevant and irrelevant blot contours in the drawing of the thing perceived.
Scale 2 - Treatment of areas or natural divisions of the blot.
Scale 3 - Treatment of actual form of both contours and areas of the blot portion selected for response with reference to changes of form relevant to thing perceived.
Scale 4 - Use of the color of the blot.
Scale 5 - Ornamentation of the blot stimulus features by additions, and relevance of the additions to the percepts.

The rating on each scale represents the degree of compromise between blot and concept. The ratings range from 1 to 5 as follows:

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1 - Extreme blot dominance
2 - Moderate blot dominance
3 - Balance between blot and concept
4 - Moderate concept dominance
5 - Extreme concept dominance

The test is a promising one as it is easily administered and the scales are well constructed and simply rated. Most important, the rated variables seem to have psychological significance and, even in our present state of understanding, apparently are of diagnostic and predictive value. The authors of the test have already found the test to differentiate normals, neurotics, schizophrenics, and patients with intra-cranial cerebral injuries (8, 10). The deviation patterns in the test have also been found of value in discriminating schizophrenic patients with good prognosis from those with bad prognosis (6).

Much of the value of the test is derived from the very clear manner in which it delineates the degree to which the subject's behavior is determined by the "concrete" or "abstract" attitude. Extensive attention has been given to this problem of concept formation. The most significant statement of the problem is probably that of Goldstein and his associates, however, for more than others, they stress the fact that the concrete and abstract attitudes are "capacity levels of the total personality." In the individual's performance in tests of concept formation, one observes the indissoluble relationship between personality traits and intellectual output.

The individual with the concrete attitude is deficient in regard to reasoning and conscious awareness of the implications of his behavior. In his behavior and intellectual existence, this type of person is unreflective and passive. He "surrenders" himself to the specific and immediate claims of his environment. On the other hand, the abstract attitude means that the individual is guided in his behavior by reflection, a conscious awareness of the implications of his behavior, an ability to transcend the very specific sensory impression and a desire to abstract the more general significance of the situation to which he is adjusting. Following Goldstein and Scherer's (5) analysis, the abstract attitude is "conscious" and "volitional".

The normal individual may favor either the concrete or abstract attitude, but his behavior ordinarily represents a compromise between both attitudes. However, marked defects in capacity for abstract performance occur among schizophrenics and patients with organic brain pathology. In tests of abstract performance, these individuals are characterized by deficient conceptualization and abnormal dependence on the immediate,

concrete aspects of the problem situation.

Similar tendencies were found in the experiments with the Graphic Rorschach Examination. In his reproductions, the normal individual modifies the blot to fit his concept more accurately so that blot and concept features are both evident. A balance between blot and concept is most typical (score 3 on the scale) and there are more balanced responses than any other. Patients with organic pathology and schizophrenics show a large number of blot dominated responses, however. They tend to include features of a blot, irrelevant to the thing perceived, and again, the basic defect appears to be insufficient conceptualization.

Rochlin, Levine and Grassi (10) found that other clinical groups were not as readily isolated when they examined the drawings of individuals with such extreme concept dominance that the original blot could not be recognized. However, they have found extreme concept dominance in patients with convulsive disorders and no clinical evidence of focal organic pathology. The authors of the test do not analyze in detail the interpretive possibilities of extreme concept dominance. It should be pointed out that extreme concept dominance in a drawing, does not necessarily mean that the individual is characterized by the abstract attitude. Indeed, extreme disregard for blot features may be associated with an over-responsive reaction to the immediate demands of his thinking and feeling. Because of this and even though the behavior is unrelated to the world of reality, in this case the blots, the behavior and thinking may be described as "concrete" in approach. The individual may be unable to separate himself from the world of inner experience and to meet new situations reflectively. In addition, he may be unable to account for his behavior. Thus, the conscious and volitional aspects of the abstract attitude are lacking.

Previous studies have confirmed the general hypothesis that the child whose infant rearing was in an institution until approximately age 3, tends to demonstrate a conspicuously unique type of personality development even though his subsequent experience was with a family (1, 2, 3, 4). He is markedly differentiated from the child whose total experience has been with families, albeit foster families. Specifically, the institution child is socially less well adjusted, less secure, more likely to demonstrate problem behavior and more retarded in social maturity. He is more removed and isolated in his relationships with people, although there is an excessive craving for affection. Intellectually, he is more retarded than foster children with continuous foster home experience, and he is also inferior in relation to the normal population. His speech remains defective through adolescence. His school performance is con-

sistently poor. The essential trends, however, are profoundly manifested in all aspects of personality, whether social, emotional or intellectual. These trends are:

1 - An exceedingly impoverished, meager, undifferentiated personality with related deficiency in inhibition and control, and
2 - Passivity or apathy of personality.

Both these tendencies are manifested in (1) personal trends such as restlessness, inability to concentrate, meagerness and apathy in personal relationships and emotional expression, and (2) intellectual trends such as low intellectual performance, inferior reasoning and abstraction, poor self-critical judgment, lack of ambition, absence of thoughtful, goal-directed behavior. The personal and intellectual trends are separated artificially for purposes of clarity and exposition. It is apparent that they are psychologically inseparable and - to relate our discussion to our previous one on the abstract, concrete attitudes - what we have been describing in the institution children is an unusual degree of "concretivity" which pervades all aspects of their behavior.

These conclusions have already been validated in some detail through a variety of experiments and observational procedures including among others tests of concept formation, a frustration experiment and a Rorschach examination (3, 4). The present report proposes to give additional experimental evidence based on data derived from the Graphic Rorschach Examination. If our hypotheses are correct, we should expect the institution children to demonstrate more extreme deviation from a normal balance between blot and concept, with deviation in the direction of concretivity.

The Experimental Groups

The experimental group consisted of 15 children, 8 boys and 7 girls, who ranged in age from 10 to 14 years (mean age 12 years and 2 months). They had entered the institution at a mean age of 4.5 months, and remained there for an average of 3 years and 3 months. At about 3 years and 7 months, they had been transferred to a foster home where they had been reared up to the time when they were studied. They had thus spent most of their years in foster homes, but the years of infancy were spent in an institution. These children will be called the institution group.

The control group consisted of 15 boys and girls equated with the institution group in terms of age and sex. They also

ranged in age from 10 to 14 years (mean age 12 years and 3 months). They had entered their foster homes at a mean age of 14 months (range 1 to 23 months). Their total life experience, however, had been with families. These children will be called the foster home group. (See Tables 1 and 2.)

TABLE 1*

PRESENT AGE, AGE ON ADMISSION, TOTAL TIME UNDER CARE (MONTHS) OF INSTITUTION AND FOSTER HOME CHILDREN

	No.	Present Age			Age on Admission			Total Time Under Care		
		Mean	Standard Dev.	Range	Mean	Standard Dev.	Range	Mean	Standard Dev.	Range
Institution	15	146.19	13.99	127-169	4.46	2.13	1-9	141.72	14.06	119-166
Foster Home	15	147.39	14.11	126-169	14.12	7.74	1-23	133.93	13.36	113-153

* In the tables that follow, P represents the per cent probability that a divergence as large or larger than the one found could have occurred by chance. In the interpretation of results, a P less than 5 per cent was accepted to mean that the observed difference was a reliable one.

TABLE 2

DISTRIBUTION OF TIME UNDER CARE OF INSTITUTION CHILDREN (MONTHS)

	Mean	Standard Deviation	Range
Age at Admission to Institution	4.46	2.13	1-9
Age at Transfer to Foster Home	43.02	4.76	36-50
Time Spent in Institution	38.56	5.88	27-47
Time Spent in Foster Home	103.16	16.75	86-131
Total Time Under Care	141.72	14.06	119-166

Since little was known about the fathers, the two groups were compared only in regard to maternal background. The mothers in both groups do not differ in regard to national derivation and educational status. However, the mothers of the institution group are superior to those of the foster home group in regard to vocational status. The inference may be drawn that the mothers of the institution group are superior in intelligence to those of the foster home group. This difference is related to the intake process. The institution was more likely to be used as a resource by the competent parent who needed temporary help. Where the parents were incompetent and the need for long time care was obvious, foster homes were a more common resource. (See Tables 3, 4, and 5.)

TABLE 3

Birthplace of Mother	Institution		Foster Home	
	Number of Children	Per Cent	Number of Children	Per Cent
Russia, Poland, Austria	5	33	5	33
United States	10	67	10	67
TOTAL	15	100	15	100

TABLE 4

MATERNAL STATUS (MINNESOTA SCALES)

	Institution		Foster Home		Differences			
	Mean Score	Stand. Dev.	Mean Score	Stand. Dev.	Institution Higher	Foster Home	t*	P
Occupational Status	3.80	2.01	1.80	1.11	2.00		3.22	less than 1%
Educational Status	2.73	1.10	2.26	.71	.47		1.40	between 10 and 20%

* The 't' statistic is the ratio of the difference in means to the standard error of the difference in means, in which an improved estimate of the standard error of the difference for small groups is employed. See Lindquist (9).

TABLE 5

Reasons for Dependency	Institution		Foster Home	
	Number of Children	Per Cent	Number of Children	Per Cent
B.O.W.	11	73	5	33
Neglect			1	7
Death of Mother			2	13
Physical Illness of Mother	1	7	1	7
Mental Illness of Mother	1	7	3	20
Father Deserted	2	13	3	20
TOTAL	15	100	15	100

As is shown by Tables 6, 7, 8, 9, and 10, the two groups are also not discriminated in regard to number of replacements and length of last placement, and in regard to both subjective

TABLE 6

Number of Replacements	Institution		Foster Home	
	Number of Children	Per Cent	Number of Children	Per Cent
0, 1	8	53	7	47
2, 3	5	33	6	40
4 and over	2	13	2	13
TOTAL	15	99	15	100

$Chi^2 = .16$ P between 90 and 95%

TABLE 7

DURATION OF LAST PLACEMENT

	Institution		Foster Home	
	Number of Children	Per Cent	Number of Children	Per Cent
Below 5 years	2	13	2	13
Above 5 years	13	87	13	87
TOTAL	15	100	15	100

TABLE 8

FOSTER HOME STATUS (MINNESOTA SCALES)

	Institution		Foster Home		Differences		t	P
	Mean Score	Stand. Dev.	Mean Score	Stand. Dev.	Insti-tution Higher	Foster Home Higher		
Children's Facilities	42.36	3.31	40.40	4.21	1.96		1.49	between 10 and 20%
Economic Status	52.75	4.36	49.02	14.24	3.73		.97	between 30 and 40%
Cultural Status	34.43	2.83	33.23	2.92	1.20		1.17	between 20 and 30%
Sociability Status	42.62	3.48	39.23	12.46	3.39		1.01	between 30 and 40%
Occupational Status	4.20	1.22	4.60	1.92		.40	.70	between 40 and 50%
Educational Status	2.46	.84	2.76	1.43		.30	.72	between 40 and 50%

TABLE 9

SATISFACTORINESS-UNSATISFACTORINESS OF FOSTER PARENT-CHILD RELATIONSHIP

	Institution		Foster Home	
	Number of Children	Per Cent	Number of Children	Per Cent
Very Satisfactory, Satisfactory	12	80	13	87
Neutral, Unsatisfactory, Outstandingly Unhappy	3	20	2	13

$Chi^2 = .24$ P between 50 and 70%

TABLE 10

DEGREE OF ASSIMILATION BY FOSTER HOME

	Institution		Foster Home	
	Number of Children	Per Cent	Number of Children	Per Cent
Complete or Partial Assimilation	14	93	15	100
Neutral or Unassimilated	1	7	0	0

$Chi^2 = 1.00$ P between 30 and 50%

and objective aspects of the foster home. The foster homes of both groups are equivalent in social, economic and cultural status. Similarly the two groups are equivalent in regard to satisfactoriness of foster parent-child relationship, and the degree of assimilation of the child by the foster family. A fuller statement on methods for evaluating foster home status is to be found in a previous report (4).

The sole difference between both groups, therefore, is the relatively superior economic competence of the mothers of the institution children. It is apparent that any evidence of personal and intellectual inferiority of the institution group, would sharply confirm the continuing and deleterious effect of the first 3 years in the institution.

The Graphic Rorschach Results

The foster home group shows a considerably higher per cent of balanced responses. (These are rated 3 on the Graphic Rorschach scale.) Fifty-one per cent of the foster home group's ratings are rated 3 as against only 25 per cent of the institution group's ratings. (t ratio 4.27, P less than 1 per cent.)

It is the impression of Grassi and Levine (7) that no normal has less than 40 per cent of 3 ratings in the Graphic Rorschach Examination. It is consequently of interest that more children in the institution group show less than 40 per cent of 3 ratings. Indeed, 13 of the 15 institution children as against only 3 of the 15 foster home children, show this degree of deviation from the normal balance between blot and concept.

Similar conclusions are apparent if we examine the individual scales. In comparing the two groups on these scales, we employ the suggestions of Dr. Kate Levine regarding blot-concept imbalance. In an unpublished study of normal adults, she had observed that among very few individuals did the per-

centage of ratings other than 3 exceed the following:

Scale I - 70 per cent
Scale II - 40 per cent
Scale III - 60 per cent
Scale IV - 60 per cent
Scale V - 80 per cent

The two groups were contrasted in regard to the number of children in each group who demonstrated a tendency to deviation from 3 that was greater than those listed above. It is evident that in Scales I, II, III, and V, the institution group shows a greater tendency to abnormal deviation from the normal balance trend.

TABLE 11

Deviation from "3" rating	Institution		Foster Home			
	Number of Children	Per Cent	Number of Children	Per Cent	Chi^2	P
Scale I - Deviation 70% or more	14	93	4	27	13.84	less than 1%
Scale II - Deviation 40% or more	10	67	1	7	11.63	less than 1%
Scale III - Deviation 60% or more	14	93	9	60	4.66	between 2% and 5%
Scale IV - Deviation 60% or more	6	40	9	60	1.20	between 20% and 30%
Scale V - Deviation 80% or more	15	100	7	47	10.91	less than 1%
Total deviation - less than 40% of 3's	13	87	3	20	13.39	less than 1%
Use of color unrelated either to blot or to concept	12	80	0	0	18.25	less than 1%
Presence of at least one "1" rating	14	93	5	33	11.63	less than 1%

Scale IV warrants special attention. This scale measures the degree to which the subject adheres to the colors of the blot or substitutes the colors of the concept. It has apparently been the experience of the authors that among normals and even abnormals, the colors employed in the drawing are realistically related to either the blot or concept. We were consequently surprised to see an unusual tendency among the institution children to employ ornamental color unrelated either to blot or to concept. The child's explanation for this particular way of using color was usually "I like it". Scale IV made no provision for this type of color deviation. Such responses were consequently scored 3 when computing total tendency to deviation from 3. Since only the institution children used color in this manner, the quantitative difference in regard to total imbalance was actually minimized. It is obvious, however, that the institution children are markedly discriminated from the foster home group in their use of color. It is likely that we have evidence here of the greater trend among the institution children to irrational, primitive, completely ego determined response, in which conscious awareness of the implications of their behavior

and active, reflective consideration of common social judgments are absent.

There are also more institution children whose drawings have received at least one rating of 1. The "1" rating refers to complete blot dominance to the point where the thing perceived is not recognizable. (It will be recalled that such ratings were most commonly found in the groups with cerebral pathology or schizophrenia.) The implication is that more institution children than foster home children show a trend to apathy, passive surrender to environmental stimulation and weak reorganization of their experience.

SUMMARY

In conclusion it may be said that the Graphic Rorschach Examination confirms previously developed hypotheses regarding the effects of early institutional rearing. Children whose major experiences had been with foster families and whose total experience has been with families (foster home group) were contrasted with a group of adolescents whose rearing in the first three years had been in an institution and whose subsequent experience was in foster homes (institution group). In the first place, the institution children show a greater trend to deviation from the normal pattern. In the second place this deviation is represented in an unusual adherence to the "concrete" attitude and conversely in inadequate conceptualization. Lastly, this "concretivity" is specifically represented in such qualities as apathy in relation to environment and behavior that is unaccountable and without conscious purpose.

REFERENCES

(1) Goldfarb, William. Infant rearing and problem behavior. Am. J. Orthopsychiat., 1943, 13, 2, 249-265.

(2) Goldfarb, William. Infant rearing as a factor in foster home replacement. (To be published in the American Journal of Orthopsychiatry.)

(3) Goldfarb, William. The effects of early institutional care on adolescent personality. (To be published in the Journal of Experimental Education.)

(4) Goldfarb, William. The effects of early institutional care on adolescent personality. (Rorschach Data.) (To be published in the American Journal of Orthopsychiatry.)

(5) Goldstein, Kurt, and Scherer, Martin. Abstract and concrete behavior. Psycholog. Monog., No. 239, 1941.

(6) Grassi, Joseph R. Contrasting schizophrenic patterns in the graphic Rorschach. Psychiat. Quart., 1942, 16, 646-659.

(7) Grassi, Joseph R., and Levine, Kate N. The graphic Rorschach manual. Psychiat. Quart., 1943, 17, 258-281.

(8) Levine, Kate N., and Grassi, Joseph R. The relation between blot and concept in graphic Rorschach responses. Rorschach Res. Exch., 1942, 6, 71-73.

(9) Lindquist, E. F. Statistical analysis in educational research. New York, Houghton Mifflin Company, 1940. 266 p.

(10) Rochlin, Gregory N., Levine, Kate N., and Grassi, Joseph R. The graphic Rorschach as a clinical instrument. (Presented before the American Psychiatric Association, May, 1942.)

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